

**SOLID-STATE COLORIMETRIC BIOSENSORS COMPRISED OF DENDRITIC
POLYMER NETWORKS**

ABSTRACT OF THE DISCLOSURE

Solid-state colorimetric biosensors having sensory groups and interdendritic cross-linking segments of alternating conjugated double and triple bonds are prepared by intermolecular polymerization of diacetylene-functionalized dendritic polymer precursors. The polymerization process may be used to form solid films that are capable of indicating the presence of an analyte by a detectable change in color. The disclosed solid-state colorimetric biosensors may exhibit excellent stability at elevated temperatures and in the presence of organic solvents, and due to the dendritic architecture and high density of sensing functionality achieve high sensitivity to analytes.